Fisherman's friend

The US Coast Guard's Integrated Deepwater System is outlined by *Gordon I Peterson*

Below
The Bell Helicopter Eagle Eye VTUAV will be deployed aboard the USCG's new Deepwater cutters
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The *Final Report of the National Commission on Terrorist Attacks Upon the United States*, published in July 2004 and popularly known as *The 9/11 Commission Report*, is compelling reading on many levels. Beyond its comprehensive investigation of the facts and circumstances relating to the terrorist attacks against the US homeland of 11 September 2001, the report's recommendations for a global strategy to deal with the threat of Islamist terrorism highlight the need to improve maritime security.

"Hard choices must be made in allocating limited resources," the commissioners reported. They called for a forward-looking strategic plan systematically analysing risks, costs, and benefits—with resources allocated to the greatest transportation security risks in a cost-effective way. "Opportunities to do harm are as great, or greater, in maritime or surface transportation," the report noted, than in the aviation sector.

The US Coast Guard's Integrated Deepwater System, conceived during the 1990s to recapitalise an aging and increasingly obsolete inventory of cutters and aircraft, has assumed an even greater sense of urgency since 9/11. Deepwater's three new classes of more capable cutters and associated small boats, manned and unmanned aircraft, integrated logistics, and an improved system for C4ISR (command, control, communications, computers, intelligence, surveillance, and reconnaissance) will result in a vastly more capable, reliable, and effective Coast Guard—a force better able to safeguard maritime homeland security in US ports, coastal waters, and the open ocean.

As Commandant of the Coast Guard Admiral Thomas H Collins said earlier this year, "With 9/11 came the imperative to identify and reduce security gaps in the maritime. It is essential that we get this right—the maritime sector is one of the most valuable and vulnerable components of our transportation system."

Improved maritime presence

The Deepwater Program's critical relationship to the US Coast Guard's future ability to deliver improved levels of maritime homeland security was highlighted during a congressional hearing on 25 August in Washington, DC.

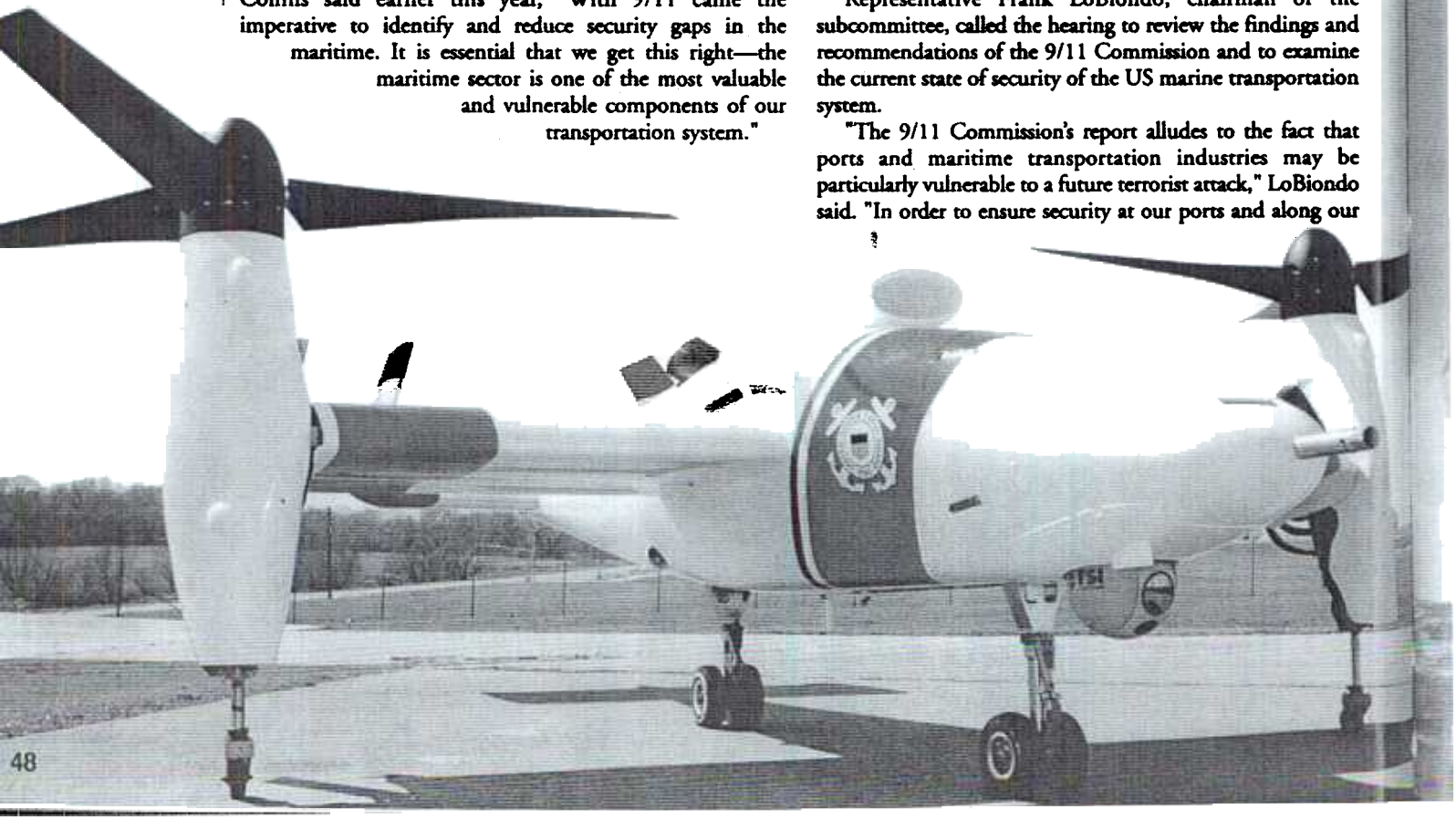
"Deepwater will greatly improve the Coast Guard's maritime presence starting at America's ports, waterways, and coasts and extending to seaward to wherever the Coast Guard needs to be present or to take appropriate maritime action," said Rear Admiral Larry Hereth, director of port security in the Marine Safety, Security, and Environmental Protection Directorate at US Coast Guard Headquarters.

Hereth, joined by James F Sloan, the Coast Guard's assistant commandant for intelligence, testified before the US House of Representative's Subcommittee on Coast Guard and Maritime Transportation during a hearing on the 9/11 Commission Report and maritime transportation security. "Deepwater provides the capability to identify, interdict, board, and, where warranted, seize vessels or people engaged in illegal/terrorist activity at sea or on the ports, waterways, or coasts of America," he said.

The US Coast Guard, operating in close co-operation with the international maritime community and other seafaring nations around the world, has taken many actions since 9/11 to make the maritime environment more secure. "A terrorist incident against our marine transportation system would have a disastrous impact on global shipping, international trade, and the world economy," Hereth said, "not to mention the strategic military value of many ports and waterways."

Representative Frank LoBiondo, chairman of the subcommittee, called the hearing to review the findings and recommendations of the 9/11 Commission and to examine the current state of security of the US marine transportation system.

"The 9/11 Commission's report alludes to the fact that ports and maritime transportation industries may be particularly vulnerable to a future terrorist attack," LoBiondo said. "In order to ensure security at our ports and along our



coasts, we must focus our attention on improving the Coast Guard's capabilities to prevent future attacks. The Coast Guard has been and continues to be the lead agency responsible for protecting homeland security along this nation's shores."

John Lehman, a former Secretary of the Navy and 9/11 Commission member, also testified before the subcommittee, noting that the US marine transportation network was "almost an irresistible target" for international terrorists. In addition to the need for an overarching plan to deal with today's threat, Lehman said that resources must be increased to provide improved levels of maritime security.

Another witness at the hearing, retired Coast Guard Commander Stephen E Flynn, a senior fellow for national security studies at the Council on Foreign Relations in New York, said that the Coast Guard's fleet of cutters and aircraft are being pushed "to the breaking point and beyond" to meet the combined imperatives of its traditional missions and new homeland security responsibilities.

A system of systems

The Integrated Deepwater System's recapitalisation of the Coast Guard's aging cutters, aircraft, and supporting systems is a system-of-systems approach to improve the effectiveness of Coast Guard operations at an affordable cost.

"When Deepwater is complete," said Coast Guard Commandant Admiral Thomas H Collins earlier this year, "our cutters and aircraft will no longer operate as independent platforms with only limited awareness of what surrounds them in the maritime domain. Instead, they will have the benefit of receiving information from a wide array of mission-capable platforms and sensors—enabling them to share a common operating picture as part of a network-centric force operating in tandem with other cutters, boats, and both manned aircraft and unmanned aerial vehicles."

The Deepwater system of systems includes platform systems (aircraft, cutters, and patrol boats), subsystems (radars, radios, satellite communications, etc), as well as individual components and assets (people, hardware, software, shore facilities). All elements combine to generate interoperable capabilities needed to produce system-wide results.

The multiyear, multibillion-dollar programme, launched two years ago with a contract awarded to Integrated Coast Guard Systems (ICGS, a joint venture between Lockheed Martin and Northrop Grumman), has gained added momentum in recent months. In June, the Coast Guard awarded contracts for two of the Deepwater Program's three new cutters.

The first contract began the design and final requirements work for the Maritime Security Cutter, Medium (WMSM, formerly known as the Offshore Patrol Cutter). The contract will advance the medium-sized cutter's original 2012 planned delivery schedule by a full three years. Four days later, a contract totalling $140 million also was awarded to ICGS for the production and delivery of the first Maritime Security Cutter, Large (WMSL, formerly known as the National Security Cutter).

"The contract award for the Maritime Security Cutter, Large is a significant milestone in the Deepwater Program," said Rear Admiral Patrick M Stillman, Program Executive Officer for the Integrated Deepwater System. "It begins the process that will, in several years, culminate in the delivery of the Coast Guard's first twenty-first century cutter–a highly capable ship designed to satisfy the Coast Guard's multi-mission responsibilities in homeland security, national defence, marine safety, and environmental protection."

Stillman said that Deepwater's new cutters will enable the Coast Guard to fulfill its commitment to the National Fleet Policy (calling for full compatibility and interoperability with the US Navy) as well as to play an important role in restoring the Coast Guard's operational readiness, capacity, and effectiveness at a time when the demand for its services has never been higher.

Although originally conceived with "deepwater" missions in mind, including forward-deployed expeditionary operations overseas with navy component commanders, mobile multi-mission platforms like the Maritime Security Cutter are ideally suited for the wide range of homeland security operations encountered in ports, waterways, and coastal areas, Coast Guard officials say.

The Maritime Security Cutter, Large will be manufactured in Pascagoula, Mississippi. Its design calls for a 421-foot hull with a 4,112-ton displacement at full load when delivered in 2007. A combined diesel and gas propulsion plant designed for a maximum speed of 28 knots will provide propulsion for the twin-screw cutter.

The notional design of the medium-sized Maritime Security Cutter anticipates a 341- to 360-foot vessel with similar capabilities and equipment as its larger counterpart. Each of the cutters will be designed to incorporate a stern

Deepwater Program Spurs International Interest

There is growing international naval interest in the Integrated Deepwater System (IDS) Program's recapitalisation of the US Coast Guard's aging deepwater assets with a state-of-the-market, interoperable system of cutters and aircraft as well as their supporting command, control, computer-communications, intelligence, surveillance and reconnaissance (C4ISR) and logistics infrastructure. The Deepwater Program's new acquisition paradigm breaks from the Coast Guard's past practice of replacing its ships and aircraft on a unit-for-unit basis as they became obsolete or unsupportable.

For Deepwater, industry was provided with specifications for the capabilities the Coast Guard needs to perform its multiple missions rather than specifications for individual assets. This innovative approach empowers industry to leverage state-of-the-market technologies and processes to achieve Deepwater's overarching goal of maximising operational effectiveness while minimising total ownership costs. The Deepwater International Programs Office is the link between the Coast Guard's Deepwater Program and the international defence community.

The Integrated Deepwater System solution provides an affordable means for US friends and allies to become and remain interoperable with the United States for coalition operations. In addition to promoting the Deepwater Program through Foreign Military Sales (FMS), the Deepwater International staff has also focused on building partnerships throughout the security assistance community, working closely with the US Department of Defense and the Department of State.

To date, the Deepwater International Programs Office has engaged with more than 30 nations around the world, including Nato members, "special-relationship" nations, and numerous non-Nato allies. A two-way discourse occurs on a continuing basis.

Additional information is available at the Deepwater Website: www.uscg.mil/deepwater

USCG navy data

Personnel: 37,582 military, 6,750 civilian
(including approx 2,000 conscripts)
Offshore Patrol: 43
Coastal patrol: 89
Inland: 36
Support and miscellaneous: 25
Aviation: 3,730 personnel, 43 Fixed wing,
127 Rotary
Reserves: 7,960

ramp for the launch and recovery of new rigid hull inflatable boats, a flight deck to accommodate a range of rotary-wing manned and unmanned aircraft, and modern command-and-control systems critical to the Coast Guard's ability to develop a common operating picture and acquire maritime domain awareness.

A key enabling role

Deepwater's aviation plan calls for the Coast Guard to introduce its first unmanned aircraft into its aircraft inventory as the programme's new cutters enter operational service. Bell Helicopter was awarded a contract in 2003 to commence concept and preliminary design work on its Eagle Eye vertical takeoff-and-landing unmanned aerial vehicle (VUAV). VUAVs will be deployed aboard both the large and medium-sized Maritime Security Cutters. Eagle Eye's initial operational capability is projected to coincide with the delivery of the first WMSL. Up to four Eagle Eyes could be deployed on each WMSL or WMSM, or two may be deployed jointly when a helicopter is embarked.

Deepwater's recapitalisation of the Coast Guard's aircraft inventory also calls for modernising existing helicopters, introducing new platforms, and sustaining a mixed force of medium- and long-range maritime patrol aircraft composed of the CASA CN235-300M and upgraded HC-130J search-and-surveillance aircraft, respectively. Re-engining of the HH-65 Dolphin helicopter inventory began earlier this year to remedy chronic reliability problems, and the first re-engined HH-65 began flight-testing in late August.

Mindful that post-9/11 maritime power and security rests on early awareness of potential threats, Deepwater's C4ISR system will play a key enabling role to achieve maritime domain awareness (MDA) by providing integrated afloat, ashore, and airborne command-and-control capabilities. The Coast Guard's ongoing C4ISR modernisation of older legacy assets and design of replacement platforms are focused on meeting both the information needs of decision makers and the tactical needs of operational commanders.

"The Coast Guard urgently needs Deepwater's improved platforms and systems if we are to have the means to develop, fuse, and assess all manner of information from a broad range of sources, " said then-Vice Admiral Thomas J Barrett in April, Coast Guard vice commandant at the time. "Maritime power is about awareness, leveraging, and synthesising large amounts of information and specific data from many disparate sources to gain knowledge of the entire maritime. If knowledge is power, and MDA provides us the requisite knowledge of the maritime, then MDA is the key to maritime power—and Deepwater ... provides one of the important means to that end."

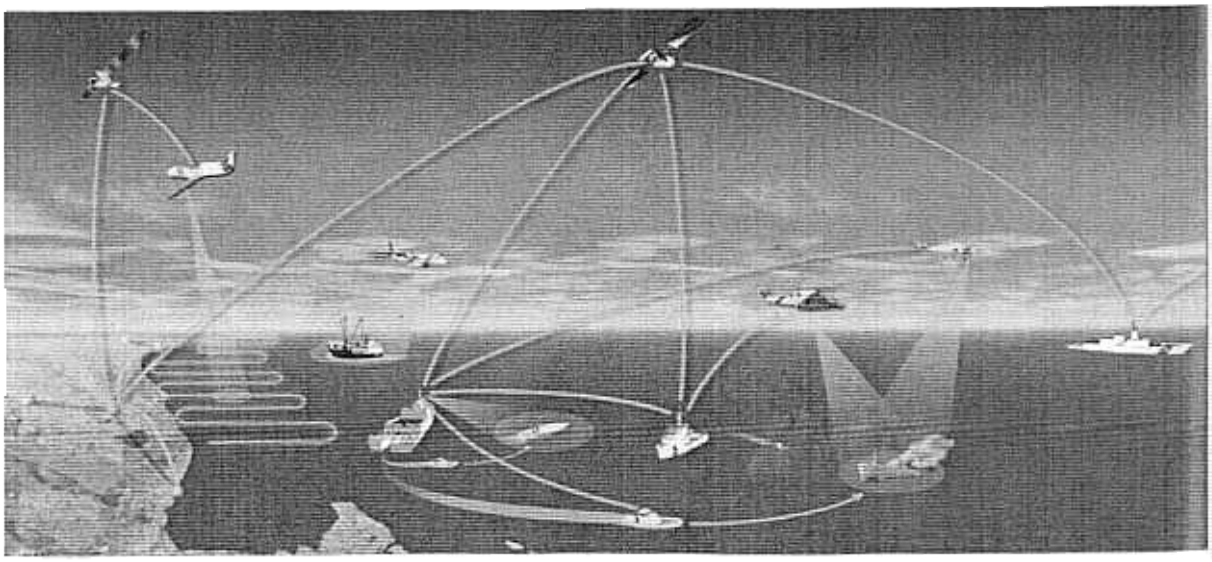
Closing capability gaps

The Deepwater Program was originally designed to address the well-recognised challenge of an increasingly aging and obsolete inventory of cutters and aircraft. Since 9/11, however, the Coast Guard's mission demands, threats, and operational priorities have changed considerably—including a 40 per cent increase in resource usage and an exponential expansion of homeland security requirements and expeditionary deployments overseas.

A comprehensive analysis of the Coast Guard's post-9/11 operational capability and capacity gaps in this new national-security environment documents a compelling need to revise the Deepwater implementation plan to address these circumstances. The Coast Guard's performance-gap analysis, initiated in July 2003, documents that attaining additional system-wide capacity and capabilities is critical to the Coast Guard's ability to perform its expanded homeland security mission while sustaining operational readiness and excellence in all of its military, multi-mission, and maritime responsibilities.

A revised implementation plan has been forwarded to the Department of Homeland Security for review as part of the US federal government's fiscal year 2006 budget process. The Deepwater Program has received strong support from the Department of Homeland Security, the Bush administration, and the US Congress. Observers say that the Coast Guard's mission demands and performance since 9/11 fully justify the need to adjust the acquisition programme to accommodate current operational realities.

"We must move forward to execute the programme aggressively so that its modern, more capable platforms and systems are delivered with an appropriate sense of urgency," Admiral Collins told students and faculty at the Naval War College in Newport, Rhode Island, in January. **NPI**



Right
A new C4ISR system will provide seamless inter-operability for the Coast Guard and other federal, state and local agencies
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